DOCUMENT RESUME

ED 081 754 SP 006 880

AUTHOR Wood, Samuel E.
TITLE Assessing Product Measures Using Systematic Observation.
PUB DATE 73
NOTE 6p.; Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, Louisiana, February 1973)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Behavior Development; *Classroom Observation Techniques; Educational Accountability; *Measurement Techniques; *Student Behavior; Student Evaluation; *Teacher Behavior

ABSTRACT

This presentation is rooted in several years of multidimensional research into the behavior of teacher and pupils; that is, more than a single technique is used simultaneously, each assessing a different dimension of the interaction. One promising outcome of findings is the possibility of measuring pupil growth by means of observational systems. Not only does this technique reduce the amount of reliance placed on paper-pencil instruments, but is far more descriptive since it assesses pupil behavior (growth) during the learning process, over a longer duration of time, and at several subsequent intervals rather than during a single assessment. Furthermore, the notion of systematic observation tends to open up the parameters of growth measurement. Pupils can be observed/assessed as they behave and interact in a natural, relatively threat-free situation. Finally, techniques of this sort complement the spirit of self-evaluation and self-improvement as they relate to teacher competence and accountability, since the teacher is given "handles" for controlling his behavior. (Author)

ASSESSING PRODUCT MEASURES USING SYSTEMATIC OBSERVATION

The purpose of this paper is to consider the use of student product measures (performance) in establishing a system of instructional accountability.

I am not suggesting that student product measures alone could be used in constructing a valid system of accountability. The magnitude of measurable variables in the several stages of teaching-learning (such as planning, process, product) function in concert and thus cannot be taken singly to yield a valid system of instructional accountability.

We have erred wherever we have attempted to assign total (100%) accountability to agents responsible for learning on the basis of singular dimensions such as student product or performance.

I am suggesting that we attempt to assign partial accountability to different instructional agents based upon the measurement of multiple dimensions in the teaching-learning process.

Teachers must be held accountable in part for student product. Ways must be found to identify the proportion of variance in student product attributable to teacher influence. Researchers have differed considerably as to what that proportion of variance might be, ranging from some of the authors of performance contracting to the suggestions of Coleman, and more specifically Jencks, that what teachers do or do not do in an instructional setting would have little or no bearing upon student performance. Somewhere between these extremes must lie a more satisfying solution for the assignment of accountability for student performance.

A series of studies conceived at the University of Florida in 1966-67 were designed to identify relationships between and among multiple dimensions of teacher and student behavior in the classroom.

Student product was not measured initially using paper-pencil tests, but rather recorded by direct observation on instruments designed to mirror cognitive and affective student performance.

The clearest findings in the Florida study suggested that variations in student product measured in terms of observed cognitive performance were closely associated with different aspects of instructional style. One of the most interesting of these findings concerned the relationship of the measured instructor and student levels of cognitive performance to student verbal behavior and instructional method. When the instructor based his instruction on student ideas using information and hypotheses which were student initiated, there was a close relationship between high level of cognition of instructor and student. But when the instructor was highly directive and did not solicit or use the student-initiated ideas, the student remained at the lowest cognitive level while the instructor's level of cognition fluctuated widely.

If the measured level of student cognitive performance is an important aspect of student product, then it does make a difference how the teacher performs in the classroom. Furthermore, if specific types of teacher performance are highly associated with measures of student product, such as level of cognitive performance, then some portion of the total accountability can be assigned to the teacher.

A recent book by Sperry reports the above findings as well as a synthesis of the most significant research in the areas of learning style and instructional style. According to Sperry, studies such as the one completed at Florida are "indicative of the future direction in research on instructional style".

If, indeed, studies of this nature point the future direction for research on instructional style, the primary reason is that those aspects of teacher performance which are sometimes called instructional style have been meticulously measured against specific student performance variables.

Performance Based Criteria

Schools and colleges in rapidly increasing numbers are constructing programs of teaching and learning based upon performance criteria where student product is measured in terms of the specific objectives students are observed to perform. All objectives in such programs must be stated in behavioral terms which are precisely measureable. This is an essential first step in creating educational systems where instructional accountability can be assigned in a valid scientific manner. But, unfortunately, it is only a first step. If the objectives students are expected to perform, though behaviorally stated and precisely measureable, are not suited to the students particular stage of learning readiness, then they are of little value.

It seems to me that before we can expect to hold instructional agents primarily accountable for student product, that we need to go beyond behavioral objectives, beyond performance based criteria, to the point where learner needs, readiness, receptivity, etc., can be matched with the performance criteria planned by instructors. We need to immediately launch several studies, perhaps similar to the Florida studies, where a more comprehensive picture of the teaching-learning act is studied in its dynamic setting; i.e., the conceiving and planning of student performance criteria,

the matching of performance objectives to student needs, the selection of instructional strategies which would help translate the planned objectives into actual student performance, the measurement and assessment of student performance.

In the past we have tried to deal with these variables in isolation. No wonder we are confused. When these crucial elements of teaching and learning are ripped out of their dynamic context and treated as separate, static entities, our results are often disjointed, dead, useless.

Currently, the research technology is available, but perhaps our resources are too thin, and our vision is too limited.

In addition to further research and development in the planning and behavioral dimensions of the accountability dilemma, it seems to me that the perceptual dimension should be studied further. Perhaps the behavioral and perceptual dimensions could be planned and studied simultaneously if a model could be developed which is comprehensive enough to include reciprocity in accountability. If the model holds up, it would be possible to account for the proportion of variance in student product which could be attributed to the proper source, i.e., the teacher, the student himself, etc.

The following model is suggested as a starting point:

MODEL FOR RECIPROCITY IN ACCOUNTABILITY

A.	B.	C.	D.	E.	F.	G.	H.
Stud.	Instr. Aides	Staff Tchrs	Lead Tchrs	Princ.	Supr. of Instr.	Dir. of Cur. & Instr.	Supt.
A→A	B→A	C→A	D→A	E→B	F→C	G→D	H→E
A→B	B→B	C→B	D→B	E→C	F→D	G→E	H→F
A→C	B→C	C→C	D→C	E→D	F→E	G→F	H→G
A→D	B→D	C→D	D→D	E→E	F→F	G→G	H→H
	B→E	C→E	D→E	E→F	F→G	G→H	
		C→F	D→F	E→G	F→H		
			D→G	E→H			

Data yielded by the reciprocity model are perceptual in nature although behavioral data via systematic observational techniques could be coupled with the perceptual data.

The model would work in the following ways:

1. Any component in the system which is evaluated by another component also evaluates that component.

2. No component would make perceptual evaluative comments about another component unless there were continual (daily) interaction.

3. There would be no hierarchical order in the reciprocity model. All components would operate as equals, with all perceptual comments having the same value.

4. Self-evaluation would be the common vantage point permeating the system from which evaluative comments of other components could be measured.

It is not possible to include a complete description of the model in this presentation, nor a discussion of the perceptual instrumentation used. However, these will be available after April 15, 1973.

Samuel E. Wood
School of Education
University of Missouri-St. Louis
St. Louis, Missouri 63121